

Attorney's Docket 2003DF438

Serial No.: 10/940,840

Art Unit 1617

Response to Restriction Requirement Dated 09/30/2005

This listing of claims will replace all prior versions, and listings, of claims in the application:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.(Withdrawn) A liquid washing, cleaning, disinfecting or bleaching composition comprising amphiphilic copolymer which includes structural units derived from

- a) an acryloyldimethyltaurate selected from the group consisting of acryloyldimethyltauric acid in free form, partially neutralized form, or completely neutralized form, and mixtures thereof having a cation selected from the group consisting of monovalent inorganic, divalent inorganic, monovalent organic, divalent organic, and mixtures thereof, and
- b) a macromonomer comprising at least one hydrophobic comonomer based on ethylenically unsaturated polyalkylene alkoxyates.

2.(Withdrawn) The liquid washing, cleaning, disinfecting or bleaching composition as claimed in claim 1, in which the copolymers have a molecular weight  $M_w$  of from  $10^3$  g/mol to  $10^9$  g/mol.

3.(Withdrawn) The liquid washing, cleaning, disinfecting or bleaching composition as claimed in claim 1, in which the cation of the acryloyldimethyltaurate (structural unit a) is selected from the group consisting of  $Li^+$ ,  $Na^+$ ,  $K^+$ ,  $Mg^{++}$ ,  $Ca^{++}$ ,  $Al^{+++}$ ,  $NH_4^+$ , an alkylamine, and mixtures thereof wherein the alkylamine is selected from the group consisting of monoalkylammonium, dialkylammonium, trialkylammonium, tetraalkylammonium, and mixtures thereof, where the alkyl

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substituents of the alkylamine are, independently of one another, (C<sub>1</sub>-C<sub>22</sub>)-alkyl radicals.

4.(Withdrawn) The liquid washing, cleaning, disinfecting or bleaching composition as claimed in claim 1, in which, the acryoldimethyltaurate is 0.1 to 99.9% by weight of the amphiphilic copolymer.

5.(Withdrawn) The liquid washing, cleaning, disinfecting or bleaching composition as claimed in claim 1, in which the macromonomer b) is a compound according to formula (I)



in which

R<sup>1</sup> is a function capable of polymerization from the group of vinylically unsaturated compounds which is suitable for building up polymeric structures in a free-radical manner,

R<sup>2</sup> is a linear or branched aliphatic, olefinic, cycloaliphatic, arylaliphatic or aromatic (C<sub>1</sub>-C<sub>50</sub>)-hydrocarbon radical, OH, -NH<sub>2</sub>, -N(CH<sub>3</sub>)<sub>2</sub> or is the structural unit [-Y-R<sup>1</sup>],

Y is selected from the group consisting of -O-, -C(O)-, -C(O)-O-, -S-, -O-CH<sub>2</sub>-CH(O)-CH<sub>2</sub>OH, -O-CH<sub>2</sub>-CH(OH)-CH<sub>2</sub>O-, -O-SO<sub>2</sub>-O-, -O-SO-O-, -PH-, -P(CH<sub>3</sub>)-, -PO<sub>3</sub>-, -NH-, N(CH<sub>3</sub>)-, and mixtures thereof,

A, B, C and D are derived from the group consisting of acrylamide, methacrylamide, ethylene oxide, propylene oxide, AMPS, acrylic acid, methacrylic acid, methyl

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methacrylate, acrylonitrile, maleic acid, vinyl acetate, styrene, 1,3-butadiene, isoprene, isobutene, diethylacrylamide, diisopropylacrylamide, and mixtures thereof, v, w, x and z, independently of one another are 0 to 500, where the sum of v, w, x and z must on average be  $\geq 1$ .

6.(Withdrawn) The liquid washing, cleaning, disinfecting or bleaching composition as claimed in claim 1, in which the molecular weight of the macromonomer b) is 200 g/mol to  $10^6$  g/mol.

7.(Withdrawn) The liquid washing, cleaning, disinfecting and bleaching composition as claimed in claim 1 further comprising a comonomer c) selected from the group consisting of

- an olefinically unsaturated monomer selected from the group consisting of N-vinylformamide (VIFA), N-vinylmethylformamide, N-vinylmethylacetamide (VIMA), N-vinylacetamide, and mixtures thereof;
- cyclic N-vinylamides (N-vinyllactams) with a ring size from 3 to 9[[,]];
- amides of acrylic acid and methacrylic acid;
- alkoxylated acrylamides and methacrylamides[[,]];
- N,N-dimethylaminomethacrylate; diethylaminomethyl methacrylate; acryl- and methacrylamidoglycolic acid; 2- and 4-vinylpyridine; vinyl acetate; glycidyl methacrylate; styrene; acrylonitrile; stearyl acrylate; lauryl methacrylate, and mixtures thereof.

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8.(Withdrawn) The liquid washing, cleaning, disinfecting and bleaching composition as claimed in claim 1, wherein the amphiphilic copolymers further comprise structural units derived from comonomer c) comprising monovinylally unsaturated comonomers different from a) and b).

9.(Withdrawn) The liquid washing, cleaning, disinfecting and bleaching composition as claimed in claim 1, wherein the alkyl substituents of the alkylamine are occupied by up to 3(C<sub>2</sub>-C<sub>10</sub>)-hydroxyalkyl groups.

10.(Withdrawn) The liquid washing, cleaning, disinfecting and bleaching composition as claimed in claim 7, wherein the cyclic N-vinylamides(N-vinylactams) with a ring size from 3 to 9 are selected from the group consisting of N-vinylpyrrolidone(NVP), N-vinylcaprolactam, and mixtures thereof.

11.(Withdrawn) The liquid washing, cleaning, disinfecting and bleaching composition as claimed in claim 7, wherein the amides of acrylic acid and methacrylic acid are selected from the group consisting of acrylamide, methacrylamide, N,N-dimethylacrylamide, N,N-diethylacrylamide, N,N-diisopropylacrylamide, and mixtures thereof.

12.(Withdrawn) The liquid washing, cleaning, disinfecting and bleaching composition as claimed in claim 7, wherein the alkoxyated acrylamides and methacrylamides are selected from the group consisting of hydroxyethyl

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methacrylate, hydroxymethylmethacrylamide, hydroxyethylmethacrylamide, hydroxypropylmethacrylamide, succinic mono-[2-(methacryloyloxy)ethyl ester], and mixtures thereof.

13.(Currently Amended) A method for cleaning a hard surface comprising contacting the hard surface with a cleaner comprising the liquid washing, cleaning, disinfecting and bleaching composition of claim 1 comprising an amphiphilic copolymer which includes structural units derived from

- a) an acryloyldimethyltaurate selected from the group consisting of acryloyldimethyltauric acid in free form, partially neutralized form, or completely neutralized form, and mixtures thereof having a cation selected from the group consisting of monovalent inorganic, divalent inorganic, monovalent organic, divalent organic, and mixtures thereof, and
- b) a macromonomer comprising at least one hydrophobic comonomer based on ethylenically unsaturated polyalkylene alkoxyates.

14.(Currently Amended) The method of claim [[12]] 13, further comprising from 0.1 to 30 weight percent peroxide.

15.(Withdrawn) A liquid cleaning gel comprising a disinfectant, an acidic component, and the liquid washing, cleaning, disinfecting and bleaching composition of claim 1.

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16.(New) The method of claim 13, wherein the macromonomer b) is a compound according to formula (I)



in which

$R^1$  is a function capable of polymerization from the group of vinylically unsaturated compounds which is suitable for building up polymeric structures in a free-radical manner,

$R^2$  is a linear or branched aliphatic, olefinic, cycloaliphatic, arylaliphatic or aromatic ( $C_1$ - $C_{50}$ )-hydrocarbon radical,  $OH$ ,  $-NH_2$ ,  $-N(CH_3)_2$  or is the structural unit  $[-Y-R^1]$ ,

$Y$  is selected from the group consisting of  $-O-$ ,  $-C(O)-$ ,  $-C(O)-O-$ ,  $-S-$ ,  $-O-CH_2-CH(O)-$ ,  $CH_2OH$ ,  $-O-CH_2-CH(OH)-CH_2O-$ ,  $-O-SO_2-O-$ ,  $-O-SO-O-$ ,  $-PH-$ ,  $-P(CH_3)-$ ,  $-PO_3-$ ,  $-NH-$ ,  $N(CH_3)-$ , and mixtures thereof,

$A$ ,  $B$ ,  $C$  and  $D$  are derived from the group consisting of acrylamide, methacrylamide, ethylene oxide, propylene oxide, AMPS, acrylic acid, methacrylic acid, methyl methacrylate, acrylonitrile, maleic acid, vinyl acetate, styrene, 1,3-butadiene, isoprene, isobutene, diethylacrylamide, diisopropylacrylamide, and mixtures thereof,  $v$ ,  $w$ ,  $x$  and  $z$ , independently of one another are 0 to 500, where the sum of  $v$ ,  $w$ ,  $x$  and  $z$  must on average be  $\geq 1$ .

17.(New) The method of claim 13, wherein said copolymer further comprises a comonomer c) selected from the group consisting of an olefinically unsaturated monomer selected from the group consisting of N-vinylformamide (VIFA), N-vinylmethylformamide, N-vinylmethacrylamide (VIMA), N-

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vinylacetamide, and mixtures thereof;  
cyclic N-vinylamides (N-vinylactams) with a ring size from 3 to 9;  
amides of acrylic acid and methacrylic acid;  
alkoxylated acrylamides and methacrylamides;  
N,N-dimethylaminomethacrylate; diethylaminomethyl methacrylate; acryl- and  
methacrylamidoglycolic acid; 2- and 4-vinylpyridine; vinyl acetate; glycidyl  
methacrylate; styrene; acrylonitrile; stearyl acrylate; lauryl methacrylate, and  
mixtures thereof.

18.(New) The method of claim 13, further comprising a surfactant  
selected from the group consisting of anionic, nonionic, cationic, amphoteric  
surfactants, and mixtures thereof.

19.(New) The method of claim 13, wherein said copolymer has a  
molecular weight  $M_w$  of from  $10^3$  g/mol to  $10^9$  g/mol.

20.(New) The method of claim 13, wherein the cation of the acryloyldimethyl-  
taurate (structural unit a) is selected from the group consisting of  $Li^+$ ,  $Na^+$ ,  $K^+$ ,  $Mg^{++}$ ,  
 $Ca^{++}$ ,  $Al^{+++}$ ,  $NH_4^+$ , an alkylamine, and mixtures thereof wherein the alkylamine is  
selected from the group consisting of monoalkylammonium, dialkylammonium,  
trialkylammonium, tetraalkylammonium, and mixtures thereof, where the alkyl  
substituents of the alkylamine are, independently of one another,  $(C_1-C_{22})$ -alkyl  
radicals.



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- 21.(New) The method of claim 13, in which, the acryloldimethyltaurate is 0.1 to 99.9% by weight of the amphiphilic copolymer.
- 22.(New) The method of claim 13, in which the molecular weight of the macromonomer b) is 200 g/mol to  $10^6$  g/mol.
- 23.(New) The method of claim 13, wherein the amphiphilic copolymers further comprise structural units derived from comonomer c) comprising monovinylally unsaturated comonomers different from a) and b).
- 24.(New) The method of claim 13, wherein the alkyl substituents of the alkylamine are occupied by up to 3(C<sub>2</sub>-C<sub>10</sub>)-hydroxyalkyl groups.
- 25.(New) The method of claim 17, wherein the cyclic N-vinylamides(N-vinylactams) with a ring size from 3 to 9 are selected from the group consisting of N-vinylpyrrolidone(NVP), N-vinylcaprolactam, and mixtures thereof.
- 26.(New) The method of claim 17, wherein the amides of acrylic acid and methacrylic acid are selected from the group consisting of acrylamide, methacrylamide, N,N-dimethylacrylamide, N,N-diethylacrylamide, N,N-diisopropylacrylamide, and mixtures thereof.



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27.(New) The method of claim 17, wherein the alkoxylated acrylamides and methacrylamides are selected from the group consisting of hydroxyethyl methacrylate, hydroxymethylmethacrylamide, hydroxyethylmethacrylamide, hydroxypropylmethacrylamide, succinic mono-[2-(methacryloyloxy)ethyl ester], and mixtures thereof.

28.(New) The method of claim 13, wherein said contacting takes place at a pH less than 5.